

LIST OF CURRENT CLAIMS

1. (Currently amended) A voltage control oscillating apparatus capable of automatically adjusting an oscillating frequency of an output oscillating signal of the voltage control oscillating apparatus, comprising:

a plurality of serial-coupled voltage control delay lines (VCDL) for outputting a plurality of oscillating signals respectively according to a voltage control signal, each of the oscillating signals is corresponding to an oscillating frequency, wherein each of the VCDLs has a delay time which corresponds to the voltage control signal;

a multiplexer coupled to the VCDL for selecting one of the oscillating signals to be the output oscillating signal according to a control signal;

a frequency detector coupled to the multiplexer for outputting a detecting signal according to the output oscillating signal; and

a controller coupled to the frequency detector for outputting the control signal to the multiplexer according to the detecting signal.

2. (Original) The voltage control oscillating apparatus as claimed in claim 1, wherein each of the voltage control delay lines includes a control terminal for receiving the voltage control signal, an input terminal coupled to the previous voltage control delay line, and an output terminal coupled to the next voltage control delay line and the multiplexer for outputting the corresponding oscillating signal.

3. (Currently amended) A method for used in a voltage control oscillating apparatus for automatically adjusting an oscillating frequency of an output oscillating signal, the method comprising the steps of:

providing a plurality of serial-coupled voltage control delay lines (VCDL) to generate a plurality of oscillating signals according to a voltage control signal, wherein

each of VCDLs has a delay time which corresponds to the voltage control signal;

detecting the oscillating frequency ~~of~~ through detecting the output oscillating signal; and

selecting one of a ~~the~~ plurality of oscillating signals ~~as the output oscillating signal~~ according to the result of the detection, wherein each of the oscillating signals is corresponding to an oscillating frequency.

4. (Original) The method as claimed in claim 3, wherein the method further comprises generating a control signal according to the result of the detection for selecting one of the plurality of oscillating signals.

5. (New) The voltage control oscillating apparatus as claimed in claim 1, wherein the voltage control signal corresponds to a predetermined frequency and the oscillating frequency of the selected oscillating signal is closest to the predetermined frequency.

6. (New) The voltage control oscillating apparatus as claimed in claim 5, wherein each VCDL includes a control terminal for receiving the voltage control signal, an input terminal coupled to the previous VCDL, and an output terminal coupled to the next VCDL and the multiplexer for outputting the corresponding oscillating signal.

7. (New) The method as claimed in claim 3, wherein the voltage control signal is corresponding to a predetermined frequency and the oscillating frequency of the selected oscillating signal is closest to the predetermined frequency.

8. (New) The method as claimed in claim 7, wherein each of the VCDLs includes a control terminal for receiving the voltage control signal, an input terminal coupled to the previous VCDL, and an output terminal coupled to the next VCDL.

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9. (New) The method as claimed in claim 7, wherein the method further comprises generating a control signal according to the result of the detection for selecting one of the plurality of oscillating signals.